THE SPONGE INDUSTRY

Synopsis of Film

1. Sponge Fleet at Key West.

2. Setting out for the Sponging Grounds.

3. Glass Bottom Bucket and Hook Used to Locate and Detach Sponges.

4. Hooking and Bringing up the Sponges from the Sea Bottom.

5. Beating and Washing Sponges.

6. Key West Docks—Sponge Market.

7. Sponge Buyers Inspecting Cured Sponges.

THE SPONGE INDUSTRY IN THE UNITED STATES

Florida and Key West

SPONGE fishing is an important modern industry of the United States. Formerly all sponges were imported from Mediterranean waters, where they were obtained by divers. Fishermen of Florida had found some useful sponges that were washed up upon the beaches, but it was not until about seventy years ago that the sponge grounds there were discovered and sponging became an occupation. In the year 1849, Key West sent to New York the first cargo of non-imported sponges.

The sponge industry in the United States has so increased in volume and importance that at present two-thirds of the weight of the world's supply of sponges is produced in this country and one-half of the world's supply in value.

In 1910 the dry sponge crop produced by the Americas weighed 4,000,000 pounds, the yearly value of which was estimated at $1,500,000.

We are all familiar with the sponges of commerce, as we see them in the stores, of different shapes and sizes, ranging from dark brown to soft yellow in color. When found and brought up from the sea bottom a sponge looks entirely different from the sponge of trade. The animal, which is really a combination of a great number of minute animal organisms, is black and slimy, and the skeleton, which is the part used commercially, supports the soft, jelly-like tissues of the living mass.

The sponge thrives only in salt waters which are not too cold, too deep, or too often disturbed by storms. It at-

taches itself firmly to the sea bottom and to coral reefs. Concerning its means of life little is known except that it absorbs its food from the ocean water by a canal system through which the water passes. The sponge grows slowly. It is estimated that the average one that is six inches high is probably four years old.

Most of the sponges are secured from the Caribbean Sea, the Gulf of Mexico, and neighboring waters. Off the Florida coast are two excellent sponge grounds. One is the "Key-Grounds" on the east, consisting of a chain of keys extending in a horn shape from the mainland near Miami, far into the Gulf of Mexico. Then there are the Bay Grounds, with a most prolific yield of sponges, at Tarpon Springs, Florida; also the sponge grounds at Batabano off the south coast of Cuba.

Sponges are obtained by different methods. In the beginnings of the industry, fishermen waded into the water and tore off the sponges from the rock to which they were attached. At present both the "hooking" and diving methods are used in this country and abroad. A sponge submarine, electrically lighted, invented in France, is used in Tunis.

To obtain sufficient sponges to supply the trade it became necessary to use a boat and to go into deeper waters. This necessity developed the "sponge hook" and "sponge glass" as implements of the industry. The sponge hook as used in Florida very generally is a heavy, short, three-tined "hook" similar to a clam rake. This is attached to a long pole. With a boat and this long pole the fishermen are able, under favorable conditions, to detach sponges at a depth of 40 feet, but the slightest ripple on the surface of the water greatly hinders the locating of the sponges. This difficulty has been overcome by means of oil poured upon the water surrounding the boat, but the water telescope or "sponge glass" is now almost always used. This is a very simple

implement. It is a bucket of ordinary size having a glass bottom. Putting this over the side of the boat and a few inches into the water, and looking through it, the sponge fishermen, in calm weather, can scan the bottom of the sea, and easily locate the sponges.

Sponging is now carried on twenty to thirty miles off shore. Large vessels like fishing schooners with crews of from 10 to 15 men go to the sponging grounds. When a sponge bar is located the crew set out in smaller boats, two men in each, to detach the sponges. The business of one man is to propel the boat and to stop it whenever the other, who is leaning over the side and peering through the sponge glass, announces the location of a sponge. The boat must then be brought into position so that the "hooker" as he is called, may use his sponge hook. Both the management of the boat and the using of the hook require much skill.

By means of this glass-bottomed bucket sponges at the depth of 50 feet may be seen. Most sponging, however, is carried on in between 30 and 36 feet, 6 fathoms, of water because very few sponge fishermen are sufficiently skillful to work the hook at a greater depth. Skill is required to plunge the hook into the sponge in such a manner as to dislodge and bring it up without tearing. It often requires the efforts of both men to do this. If a sponge is badly torn its commercial value is reduced.

Upon returning to the large vessel the sponges collected are conveyed to the deck by small boats. The slimy matter drains off, and the drying process is marked by an ammonia scent in the earlier stages and a sea-weedy one later. The next process,—is washing by the tides. To subject the sponges to the action of the waves for cleansing, poles are driven into the sea bottom at close intervals forming pens, or "kraals," about ten feet in diameter. This cleasing requires several days. They are afterward removed, beaten with paddles, and squeezed,

that they may be ready for the final cleansing and sorting by hand.

They are then strung upon ropes according to kinds and sizes, and piled upon wharves ready for the sponge merchant, who sends his cargo to warehouses located at convenient shipping points. Before the retail merchant offers them to the public expert clippers give them uniform size, saving all waste in the form of "trimmings" for packing explosives and for filtering purposes.

Having been thus prepared, nothing remains for the convenience of shipping to mercantile centers except assorting according to size, and baling. They are pressed into the bales, and wrapped with burlap, the size of the bale varying from 15 to 60 pounds.

As in many other industries adulteration has to be looked for. Sponges are sold dry, by weight. Dealers often adulterate them to increase their weight by soaking them in a solution of rock sand and glucose and then drying them again.

The soft yellow or white sponges which appear so attractive have been bleached. Bleaching destroys their durability but renders them more marketable.

There are many varieties of sponges upon the market. The Turkish, the sheep's wool, velvet, grass, glove, reef, yellow and wire sponges are all found in American waters. The Turkish sponge, which has been transplanted alive to American waters, is the most valuable and still very rare. It is worth $50 a pound. Next in value is the big sheep's wool sponge. The largest of these weigh about 5 pounds each and are worth more than $2.00 a pound.

A few years after sponging became a lucrative industry in Florida, the Mediterranean method of diving for sponges was introduced. The sponge fishermen were disturbed, fearing that so many sponges would be put upon the market by the new method that their income would be greatly

lessened. This fear has proved groundless, however, since both methods are used in Florida, and the products of both find ready market. The diving equipment is much more expensive than that of the ordinary sponge fishermen and therefore there must be larger results from that method to warrant the extra cost. The diver can go into deeper and rougher waters. Diving boats, suits, air pumps, lines and men to operate the same are required for that method. The diver carries with him a large open-work bag into which he puts the sponges which he gathers from the sea floor. Sharks abound in the waters of the sponge grounds and make the occupation dangerous for divers. To remain perfectly still is the only way to escape a shark, for he will not touch anything dead or motionless. To kill a shark with a knife causes trouble for a dozen will come almost immediately to witness the tragedy.

The boat from which divers go down is run by gasoline engines. Its propellers are so encased that they will not entangle the life line. A ladder extending down the side of the boat into the water about 2½ feet enables the diver to ascend the more easily.

The uses to which sponges are put are many and no satisfactory substitutes have yet been found to take their places. They are necessary in the home, in the industries and in the hospital. In the home they are still used in the toilet. In the arts their uses are varied and important and the big sheep's wool sponges, bringing $5 to $6 apiece, are used in stables and garages for washing purposes, their soft surface preventing scratching. In the hospital surgeons find them valuable. Years ago burnt sponges had a medicinal value in certain affections of the glands, but now iodine and bromide which they contain and which are released by burning are used separately.

It has been found necessary to protect the sponge grounds against over-fishing, as the lobster catch had to be regu-

lated. Congress has enacted a law which prohibits divers from catching sponges during the months from May to October, in water less than 50 feet deep, but as it takes a sponge from three to seven years to grow to marketable size, this law is not a sufficient protection, notwithstanding the fact that United States Revenue Cutters patrol the sponging grounds of the Florida waters to enforce this law.

Experiments have been carried on by scientists to increase and improve sponges. The planting of sponges has been tried in Cuba. Small sections of sponges have been fastened to bamboo and sunk into the sea water; but a long time is required for their growth. When more is known about the spawning of the sponge more may be accomplished along the lines of protection and transplanting.

The crusty base of the sponge called its root is the part that first begins to be easily torn in use. To produce a rootless sponge has been the object of Dr. H. F. Moore, of the United States Fisheries' Bureau. As an experiment sponges have been cut into very small pieces and strung on wires fastened to stakes which are driven into the sea bottom. After eighteen months it has been found that these "seedlings" have grown to 25 times their weight at planting and are ball-shaped, having their roots on the inside.

Sponge fishing is the chief industry of the Bahamas, and yields a half million dollars yearly. Sponges come also from Honduras and most prolific sponge beds have lately been discovered on the north and east coasts of Yucatan.

Sponge fishing is an important industry of Cuba. At Batabano, Cuba, from which a fine quality of sheep's wool sponges come, 25 per cent. of the male population are engaged in this occupation, three-fourths of them fishing for sponges, and the other fourth trimming them.

Questions on Film

1. Describe the sponge hook and the water-telescope. How are they used?
2. What is each man doing in the small boat?
3. What are the men leaning over the side of the boat doing with the wooden paddles?
4. Describe the wharf scene, appearance of sponges, their arrangement and appearance and dress of the men on the wharf.

Questions, Topics, Suggestions

1. Bring to class as many different specimens of sponges as possible, for discussion of color, shape and texture.
2. What is a sponge? Where does it grow? How does it grow? How long does it take a sponge to reach marketable size? Describe its appearance when it comes from the water.
3. Where in American waters are sponges caught? Locate on map.
4. Locate sponging grounds in other countries.
5. State three uses for sponges.
6. State three ways in which sponging is carried on.
7. Explain the "hooking" method of sponging.
8. Explain the diving method of sponging, describing equipment and manner in which a sponge diver works.
9. What are "kraals"? How constructed? Purpose?
10. Describe three stages through which the sponge passes before it is first marketed.
11. How and why are sponges trimmed?
12. What commercial value have the sponge "trimmings?"

13. In what manner are sponges shipped from the warehouses to the retail trade? What is the average weight of a bale of sponges?
14. How are sponges adulterated? Why?
15. Why are some of them bleached?
16. How have sponges been planted? Has this been successful?
17. Why will a rootless sponge be of more value commercially?
18. What has been done scientifically to accomplish this?
19. What is the average yearly value of the sponge crop in the United States?

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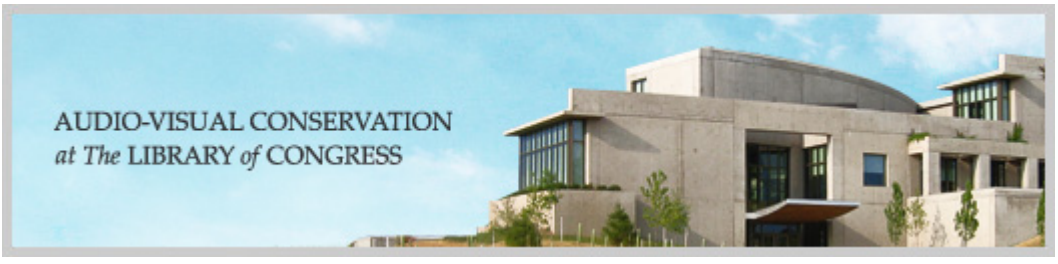

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